AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (original) A process for performing unicompartmental knee arthroplasty surgical operations on portions of a knee joint, comprising:

(a) obtaining data corresponding to structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompartmental knee arthroplasty surgical instrument attached to a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one sensor, tracking position and orientation of the surgical instrument relative to the body part;

(d) generating and displaying on a monitor associated with the computer a visual image of the instrument properly positioned and oriented relative to the body part;

(e) navigating the instrument relative to the body part and attaching the instrument to the body part according to the image; and

(f) modifying the body part using the instrument attached to the body part; and

(g) assessing performance of the joint using images displayed on said monitor.

Claim 2 (original) The process of claim 1, further comprising registering a body part by intraoperatively designating at least one point on the body part with a probe, wherein the probe is attached to a fiducial capable of being tracked by said at least one position sensor.

Claim 3 (original) The process of claim 1, wherein the body part comprises one of a femur, a tibia, and a patella.

Claim 4 (original) The process of claim 1, wherein the locator comprises one of a C-arm fluoroscope, a CT scanner, MRI equipment, ultrasound equipment, laser scanning equipment and a probe.

Claim 5 (original) The process of claim 1, wherein the fiducials comprise one of active fiducials, passive fiducials and hybrid active/passive fiducials.

Claim 6 (original) The process of claim 1, wherein the position tracking sensors comprise one of infrared sensors, electromagnetic sensors, electrostatic sensors, light sensors, sound sensors, and radiofrequency sensors.

Claim 7 (original) The process of claim 1, wherein the surgical instrument comprises a rod and a cutting block.

Claim 8 (original) A process for performing unicompartmental knee arthroplasty surgical operations on portions of a knee joint comprising:

(a) obtaining data corresponding to structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompartmental knee arthroplasty surgical instrument attached to a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one sensor, tracking position and orientation of the instrument relative to the body part;

(d) generating and displaying on a monitor associated with the computer a visual image of the instrument properly positioned and oriented relative to the body part;

(e) navigating the instrument relative to the body part and attaching the instrument to the body part according to the image;

(f) modifying the body part using the instrument attached to the body part;

(g) removing the instrument from the body part;

(h) registering a unicompartmental knee arthroplasty trial component attached to a fiducial capable of being tracked by at least one position sensor;

(i) tracking position and orientation of the trial component relative to the body part;

(j) generating and displaying on the monitor a visual image of the trial component properly positioned and oriented relative to the body part;

(k) navigating and installing the trial component on the body part according to the image; and

(l) assessing performance of the knee joint using images displayed on the monitor.

Claim 9 (original) The process of claim 8, further comprising:

(a) discontinuing tracking of the trial component using the fiducial attached to the trial component; and

(b) initiating tracking of the trial component using the fiducial attached to the body part on which the trial component is installed.

Claim 10 (original) The process of claim 8, wherein the body part comprises one of a femur, a tibia and a patella.

Claim 11 (original) The process of claim 8, wherein the locator comprises one of a C-arm fluoroscope, a CT scanner, MRI equipment, ultrasound equipment, laser scanning equipment and a probe.

Claim 12 (original) The process of claim 8, wherein the fiducials comprise one of active fiducials, passive fiducials, and hybrid active/passive fiducials.

Claim 13 (original) The process of claim 8, wherein the position/orientation tracking sensors comprise at least one of infrared sensors, electromagnetic sensors, electrostatic sensors, light sensors, sound sensors, and radiofrequency sensors.

Claim 14 (original) The process of claim 8, wherein the trial component comprises a femoral component.

Claim 15 (original) The process of claim 8, further comprising:

(a) performing soft tissue balancing tests while the computer continues to track the fiducials;

(b) using data generated by the computer, including information related to at least one of release points and amounts, to assess alignment and stability of the trial component and the knee joint; and

(c) releasing soft tissue to adjust alignment and stability of the knee joint.

Claim 16 (original) A process for performing unicompartmental knee arthroplasty surgical operations on portions of a knee joint comprising:

(a) obtaining data corresponding to the structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompartmental knee arthroplasty trial component attached at least indirectly to a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one sensor, tracking position and orientation of the trial component relative to the body part; and

(d) generating and displaying on a monitor associated with the computer a visual image of the trial component properly positioned and oriented relative to the body part.

Claim 17 (original) A process for performing unicompartmental knee arthroplasty surgical operations on portions of a knee joint comprising:

(a) obtaining data corresponding to structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompartmental knee arthroplasty implant trial component attached at least indirectly to a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one sensor, tracking position and orientation of the trial component relative to the body part;

(d) generating and displaying on a monitor associated with the computer a visual image of the trial component properly positioned and oriented relative to the body part;

(e) navigating the trial component relative to the body part and attaching the trial component to the body part according to the image;

(f) performing soft tissue balancing tests while the computer continues to track the fiducials;

(g) using data generated by the computer to assess alignment and stability of the joint with the trial component attached; and

(h) releasing soft tissue to adjust alignment and stability.

Claim 18 (original) A process for performing unicompmaratmental knee arthroplasty surgical operations on portions of a knee joint comprising:

(a) obtaining data corresponding to structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompmaratmental knee arthroplasty implant component attached at least indirectly to a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one position sensor, tracking position and orientation of the implant component relative to the body part;

(d) generating and displaying on a monitor associated with the computer a visual image of the implant component properly positioned and oriented relative to the knee joint; and

(e) navigating the implant component relative to the body part and attaching the implant component to the body part according to the image.

Claim 19 (original) The process of claim 18, further comprising performing soft tissue balancing tests on the joint with implant component installed while the computer continues to track the fiducials.

Claim 20 (original) A process for performing unicompartmental knee arthroplasty surgical operations on portion of a knee joint comprising:

(a) obtaining data corresponding to structure of a body part forming a portion of said joint with a locator, wherein the body part and the locator are each attached to a fiducial capable of being tracked by at least one position sensor;

(b) registering a unicompartmental knee arthroplasty implant component attached to a tool to which is attached a fiducial capable of being tracked by at least one position sensor;

(c) using a computer which receives signals from the at least one sensor, tracking position and orientation of the implant component relative to the body part;

(d) generating and displaying on a monitor associated with the computer a visual image of the implant component properly positioned and oriented relative to the body part;

(e) navigating the implant component relative to the body part and attaching the implant component to the body part according to the image;

(f) discontinuing tracking of the implant component using the fiducial attached to the tool;

(g) initiating tracking of the implant component using the fiducial attached to the body part on which the implant component is attached;

(h) performing soft tissue balancing tests while the computer continues to track the fiducials; and

(i) using data generated by the computer to assess alignment and stability of the joint with the implant installed.

Kindly cancel claims 21 – 29 without prejudice.